

# SAN RAFAEL DESERT MASTER LEASING PLAN

## APPENDIX B—OIL AND GAS

### STIPULATIONS AND LEASE NOTICES

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#### STIPULATIONS APPLICABLE TO OIL AND GAS LEASING

**Table B-1** includes oil and gas leasing stipulations associated with each alternative. Stipulations included in Alternative A (No Action Alternative) come from the Price and Richfield RMPs. If the No Action Alternative is selected, future leasing actions would be subject to these conditions. The stipulations considered under Alternatives B, C, and D are new lease stipulations being considered as part of this MLP and land use plan amendment process. The stipulations included in this table would only apply to oil and gas leasing and development in the SRD MLP planning area.

#### Description of Stipulations

The following tables show resources of concern and stipulations including exceptions, modifications, and waivers by alternative. Where appropriate, the purpose of the stipulation is also explained. Public lands in the SRD MLP area have been categorized as 1) open to oil and gas leasing subject to the standard lease terms and applicable laws, regulations, and orders; 2) open to oil and gas leasing subject to minor constraints/special stipulations (TL and/or CSU stipulations); 3) open to oil and gas leasing subject to major constraints (NSO stipulations); or 4) closed to oil and gas leasing.

General stipulations, which are applied to all leases, including leases that are issued in areas that are open subject to standard lease terms, are not included in the table below. Areas identified as “closed” are unavailable for oil and gas leasing. Therefore, there is no need for stipulations. Areas that are closed to oil and gas leasing vary by alternative, and are discussed in Chapter 2.

#### Exceptions, Modifications, and Waivers

In some cases, stipulations may be excepted, modified, or waived by the Authorized Officer. An exception is a one-time exemption for a particular site within a leasehold; exceptions are determined on a case-by-case basis; the stipulation continues to apply to all other sites within the leasehold. A modification is a change to the provisions of a lease stipulation, either temporarily or for the term of the lease. A waiver is a permanent exemption from a lease stipulation. The stipulation no longer applies within the leasehold. The environmental analysis document prepared for site-specific oil and gas proposals (i.e., APDs, sundry notices) also would need to address proposals to exempt, modify, or waive a surface stipulation. Specific exceptions, modifications, and waivers are included in the table below.

#### OIL AND GAS LEASE NOTICES

**Table B-2** includes the oil and gas lease notices that would be applied to leases within the SRD MLP planning area under various alternatives. A lease notice provides more detailed information concerning limitations that already exist in law, lease terms, regulations, or operational orders. A lease notice also addresses special items the lessee should consider when planning operations, but does not impose lease stipulations.

**Table B-1. Oil and Gas Leasing Stipulations**

| Resource of Concern | Applicable Area | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------|-----------------|------------|-------------|---|---|---|---|
|                     |                 |            | A           | B | C | D |   |
| Air Quality         | Planning Area   | CSU        |             | X |   | X | <p>All new and replacement internal combustion gas-fired field engines of less than or equal to 300 design-rated horsepower shall not emit more than 2 grams of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.</p> <p>All new and replacement internal combustion gas-fired field engines of greater than 300 design-rated horsepower must not emit more than 1 gram of NO<sub>x</sub> per horsepower-hour.</p> <p><b>Purpose:</b> Minimize impacts to air quality.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> The Authorized Officer may modify the stated requirements in accordance with updated specifications to comply with the Clean Air Act, or as deemed necessary to ensure that the stipulation is sufficient to maintain air quality and protect air quality related values in nearby national parks.</p> <p><b>Waiver:</b> None.</p>  |
| Air Quality         | Planning Area   | CSU        |             | X | X | X | <p>To mitigate any potential impact oil and gas development emissions may have on regional ozone formation, or to the extent such emissions may cause or contribute to adverse air quality related values (AQRV) impacts (including visibility) in nearby national parks, apply a CSU stipulation across the Planning Area that requires the following minimum standards:</p> <ol style="list-style-type: none"> <li>1. Drill rig engines must meet Tier II or better standards, as necessary based on air quality conditions or projections, and consistent with the most stringent EPA emissions standards that are in force at the time of installation or approval.</li> <li>2. Stationary internal combustion engine standard of 2g NO<sub>x</sub>/bhp-hr for engines&lt;300HP and 1g NO<sub>x</sub>/bhp-hr for engines &gt;300 HP.</li> <li>3. Low bleed or no bleed pneumatic controller.</li> <li>4. Dehydrator VOC emission controls to +95 percent efficiency.</li> <li>5. Tank VOC emission controls to +95 percent efficiency equivalent to NSPS subpart 0000.</li> </ol> |

| Resource of Concern     | Applicable Area | Stip. Code | Alternative |   |   |   | Stipulation Description  |
|-------------------------|-----------------|------------|-------------|---|---|---|--|
|                         |                 |            | A           | B | C | D |  |
|                         |                 |            |             |   |   |   | <b>Purpose:</b> Minimize impacts to air quality.<br><b>Exception:</b> None.<br><b>Modification:</b> The Authorized Officer may modify the stated requirements in accordance with updated specifications to comply with the Clean Air Act, or as deemed necessary to ensure that the stipulation is sufficient to maintain air quality and protect air quality related values in nearby national parks.<br><b>Waiver:</b> None.                 |
| Air Quality             | Planning Area   | CSU        |             | X |   | X | <p>A Fugitive Dust Control Plan would be required for oil and gas activities that would disturb a surface area larger than 0.25 acre, or that would result in substantial increases in truck traffic on unpaved or untreated surfaces.</p> <b>Purpose:</b> Minimize impacts to air quality.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.   |
| Air Quality/Night Skies | Planning Area   | CSU        |             | X |   |   | <p>In the absence of a pipeline, to capture gas associated with production from an oil well, use of a combustor or other best available technologies would be required. Venting or open flaring would be prohibited.</p> <b>Purpose:</b> Minimize impacts to air quality.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.   |
| Air Quality/Night Skies | Planning Area   | CSU        |             |   | X |   | <p>In the absence of a pipeline, to capture gas associated with production from an oil well, use of a combustor or other best available technologies would be required.</p> <b>Purpose:</b> Minimize impacts to air quality.<br><b>Exception:</b> Venting or open flaring would be prohibited except in the limited circumstances identified in the BLM's methane waste prevention rule.<br><b>Modification:</b> None.<br><b>Waiver:</b> None. |

| Resource of Concern                   | Applicable Area                       | Stip. Code | Alternative |   |   |   | Stipulation Description  |
|---------------------------------------|---------------------------------------|------------|-------------|---|---|---|--|
|                                       |                                       |            | A           | B | C | D |  |
| Air Quality/Night Skies               | Planning Area                         | CSU        |             |   |   | X | <p>In the absence of a pipeline, to capture gas associated with production from an oil well, use of a combustor or other best available technologies would be required. To minimize impacts on air quality and AQRVs, as well as minimize emissions of greenhouse gases, venting or open flaring would be prohibited. Evaluation of all reasonable and technically feasible gas capture technologies would be required as part of operator plan approvals.</p> <p><b>Purpose:</b> Minimize impacts to air quality.</p> <p><b>Exception:</b> Venting or open flaring would be prohibited except in the limited circumstances identified in the BLM's methane waste prevention rule. In the case of an exception, a visual screen must be used to minimize sky glow, glare, and adverse visual effects on night sky resources.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Multiple                              | Three Rivers Mineral Withdrawal       | NSO        |             |   | X |   | <p>No surface-disturbing activities within the area of the Three Rivers locatable mineral withdrawal.</p> <p><b>Purpose:</b> Minimize impacts to the Green River.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Lands with Wilderness Characteristics | Lands with Wilderness Characteristics | NSO        |             | X |   |   | <p>No surface-disturbing activities related to oil and gas operations would be allowed in areas identified by the BLM as having wilderness characteristics during the 2016 wilderness characteristics inventory.</p> <p><b>Purpose:</b> Minimize impacts to lands with wilderness characteristics.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Lands with Wilderness Characteristics | Labyrinth Canyon Unit                 | NSO        |             |   |   | X | <p>No surface-disturbing activities related to oil and gas operations would be allowed in portions of the Labyrinth Canyon Unit that were inventoried by BLM and found to have wilderness characteristics during the 2016 inventory.</p>   |

| Resource of Concern                   | Applicable Area                       | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------------------------|---------------------------------------|------------|-------------|---|---|---|---|
|                                       |                                       |            | A           | B | C | D |   |
|                                       |                                       |            |             |   |   |   | <b>Purpose:</b> Minimize impacts to lands with wilderness characteristics in the Labyrinth Canyon Unit.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Lands with Wilderness Characteristics | Lands with Wilderness Characteristics | CSU        |             |   |   | X | <p>In areas identified by the BLM as having wilderness characteristics during the 2016 wilderness characteristics inventory:</p> <ul style="list-style-type: none"> <li>No disturbance would be allowed within the viewshed of the Green River.</li> <li>Well pads would be placed no closer than 640 acres (approximately 1 mile) apart.</li> <li>Production facilities would be co-located and designed to minimize surface impacts.</li> <li>Pipelines and utilities would be buried, to the extent practical, and placed along existing roads.</li> <li>Require interim reclamation of roadway disturbance and reclamation of well pads to well head/production facilities to minimize long-term surface disturbance.</li> <li>During final reclamation, fully restore the original landform. Travel routes would be restored to their original character.</li> </ul> <b>Purpose:</b> Minimize impacts to lands with wilderness characteristics.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None. |
| Lands with Wilderness Characteristics | Labyrinth Canyon Unit                 | CSU        |             |   | X |   | <p>In areas inventoried by BLM and found to have wilderness characteristics in the Labyrinth Canyon unit:</p> <ul style="list-style-type: none"> <li>No disturbance would be allowed within the viewshed of the Green River.</li> <li>Well pads would be placed no closer than 320 acres apart.</li> <li>Production facilities would be co-located and designed to minimize surface impacts.</li> <li>Pipelines and utilities would be buried, to the extent practical, and placed along existing roads.</li> <li>Require interim reclamation of roadway disturbance and reclamation of well</li> </ul>   |

| Resource of Concern       | Applicable Area     | Stip. Code | Alternative |   |   |   | Stipulation Description  |
|---------------------------|---------------------|------------|-------------|---|---|---|--|
|                           |                     |            | A           | B | C | D |  |
|                           |                     |            |             |   |   |   | <p>pads to well head/production facilities to minimize long-term surface disturbance.</p> <ul style="list-style-type: none"> <li>During final reclamation, fully restore the original landform. Travel routes would be restored to their original character.</li> </ul> <p><b>Purpose:</b> Minimize impacts to lands with wilderness characteristics in the Labyrinth Canyon Unit.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Paleontological Resources | Planning Area (RFO) | CSU        | X           |   |   |   | <p>Require on-the-ground paleontological inventories prior to permitting surface disturbing activities in areas where there is a high potential to affect scientifically significant paleontological resources.</p> <p>Require paleontological assessments prior to permitting surface disturbing activities in areas where there is a moderate potential to affect scientifically significant paleontological resources.</p> <p>For all permitted actions occurring in paleontologically sensitive areas, include stipulation(s) to cover unanticipated paleontological discoveries during disturbance. This stipulation would mandate work stoppage (or avoidance), notification to the authorized officer, and protection of the material and geological context if any paleontological resources were discovered during disturbance activities. Other stipulations might be appropriate on a case-by-case basis.</p> <p><b>Purpose:</b> Protect paleontological resources.</p> <p><b>Exception:</b> None.</p> <p>Modification: None.</p> <p><b>Waiver:</b> None.</p> |
| Paleontological Resources | Planning Area (PFO) | CSU        | X           |   |   |   | <p>An assessment of fossil resources will be required on a case-by-case basis, mitigating, as necessary, before and during surface disturbance.</p> <p><b>Purpose:</b> Protect paleontological resources.</p> <p><b>Exception:</b> The AO may grant an exception if the area has previously been inventoried and an assessment completed.</p>  |

| Resource of Concern       | Applicable Area                  | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------------|----------------------------------|------------|-------------|---|---|---|---|
|                           |                                  |            | A           | B | C | D |   |
|                           |                                  |            |             |   |   |   | <b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Paleontological Resources | Areas with PFYC of class 4 and 5 | CSU        |             | X | X | X | <p>Preconstruction paleo surveys and construction monitoring by a BLM permitted paleontologist would be required for all surface disturbing oil and gas activities in potential fossil yield classification (PFYC) 4 and 5 areas.</p> <p>Where monitoring encounters vertebrate and vertebrate trace fossils during oil and gas operations, all operations must cease until the BLM Authorized Officer determines whether the site can be avoided, protected, or must be fully excavated.</p> <p><b>Purpose:</b> Protect paleontological resources.</p> <p><b>Exception:</b> The AO may grant an exception if the area has previously been inventoried.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Oil and Gas Resources     | Split-Estate Lands (RFO)         | Varies     | X           |   |   |   | <p>Lease split-estate lands according to BLM RMP stipulations for adjacent or nearby public lands or plans of other surface management agencies, consistent with federal laws, 43 CFR 3101, and the surface owners' rights.</p> <p><b>Purpose:</b> To reduce potential surface use conflicts.</p> <p><b>Exception:</b> The Authorized Officer would apply the same lease exceptions as those applied to surrounding lands with Federal surface.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Oil and Gas Resources     | Split-Estate Lands               | Varies     |             | X | X | X | <p>On split-estate lands, BLM would apply the same lease stipulations as those applied to surrounding lands with Federal surface. Mitigation measures to protect other resource values would be developed during the appropriate site-specific environmental analysis and would be attached as conditions of approval to permits in consultation with the surface owner or surface management agency.</p> <p><b>Purpose:</b> To reduce potential surface use conflicts.</p> <p><b>Exception:</b> Whether exceptions apply would depend on the stipulation.</p> <p><b>Modification:</b> Whether exceptions apply would depend on the stipulation.</p>  |

| Resource of Concern | Applicable Area  | Stip. Code | Alternative |   |   |   | Stipulation Description  |
|---------------------|--|------------|-------------|---|---|---|--|
|                     |  |            | A           | B | C | D |  |
|                     |  |            |             |   |   |   | <b>Waiver:</b> Whether exceptions apply would depend on the stipulation.   |
| Natural Areas       | Dirty Devil/French Springs and Horseshoe Canyon South    | NSO        | X           |   | X | X | <p>No surface occupancy within the lands managed as BLM natural areas to protect, preserve, and maintain their wilderness characteristics.</p> <p><b>Purpose:</b> To protect, preserve, and maintain areas managed for their wilderness characteristics.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Recreation          | Recreation Focus Areas in the Price and Richfield ERMA's | NSO        |             | X |   |   | <p>No surface occupancy would be allowed within the following recreation focus areas:</p> <ul style="list-style-type: none"> <li>• Fossil Point</li> <li>• Dry Lake</li> <li>• Three Canyon</li> <li>• Saucer Basin/Moonshine Wash</li> <li>• The Cone</li> <li>• Keg Knoll</li> <li>• Sweetwater Reef</li> <li>• Cottonwood Wash</li> <li>• Horseshoe Canyon Trailhead</li> </ul> <p><b>Purpose:</b> To protect recreational uses and experiences.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Recreation          | Recreation Focus Areas in the Price and Richfield ERMA's | NSO        |             |   |   | X | <p>No surface occupancy would be allowed within the following recreation focus areas:</p> <ul style="list-style-type: none"> <li>• Fossil Point</li> <li>• Dry Lake</li> <li>• Three Canyon</li> <li>• Saucer Basin/Moonshine Wash</li> <li>• Keg Knoll</li> <li>• Sweetwater Reef</li> <li>• Horseshoe Canyon Trailhead</li> </ul>  |



| Resource of Concern | Applicable Area  | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------|--|------------|-------------|---|---|---|---|
|                     |  |            | A           | B | C | D |   |
|                     |  |            |             |   |   |   | <b>Purpose:</b> To protect recreational uses and experiences.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Recreation          | Recreation Focus Areas in the Price and Richfield ERMA's | CSU        |             |   |   | X | <p>In the Cone and Cottonwood Wash recreation focus areas:</p> <ul style="list-style-type: none"> <li>Well pads would be placed no closer than 640 acres (approximately 1 mile) apart.</li> <li>Production facilities would be co-located and designed to minimize surface impacts.</li> <li>Pipelines and utilities would be buried, to the extent practical, and placed along existing roads.</li> <li>Require interim reclamation of roadway disturbance and reclamation of well pads to well head/production facilities to minimize long-term surface disturbance.</li> <li>During final reclamation, fully restore the original landform. Travel routes would be restored to their original character.</li> </ul> <b>Purpose:</b> To protect recreational uses and experiences.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None. |
| Recreation          | Recreation Focus Areas in the Price and Richfield ERMA's | CSU        |             |   | X |   | <p>Within recreation focus areas in the San Rafael Desert:</p> <ul style="list-style-type: none"> <li>Well pads would be placed no closer than 160 acres apart.</li> <li>Production facilities would be co-located and designed to minimize surface impacts.</li> <li>Pipelines and utilities would be buried, to the extent practical, and placed along existing roads.</li> <li>Require interim reclamation of roadway disturbance and reclamation of well pads to well head/production facilities to minimize long-term surface disturbance.</li> <li>During final reclamation, fully restore the original landform. Travel routes would be restored to their original character.</li> </ul>   |

| Resource of Concern | Applicable Area                | Stip. Code | Alternative |   |   |   | Stipulation Description  |
|---------------------|--------------------------------|------------|-------------|---|---|---|--|
|                     |                                |            | A           | B | C | D |  |
|                     |                                |            |             |   |   |   | <b>Purpose:</b> To protect recreational uses and experiences.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.   |
| Recreation          | Labyrinth Canyon SRMA          | CSU        |             |   | X |   | In the Labyrinth Canyon SRMA: <ul style="list-style-type: none"> <li>No disturbance would be allowed within the viewshed of the Green River.</li> <li>Well pads would be placed no closer than 320 acres apart.</li> <li>Production facilities would be co-located and designed to minimize surface impacts.</li> <li>Pipelines and utilities would be buried, to the extent practical, and placed along existing roads.</li> <li>Require interim reclamation of roadway disturbance and reclamation of well pads to well head/production facilities to minimize long-term surface disturbance.</li> <li>During final reclamation, fully restore the original landform. Travel routes would be restored to their original character.</li> </ul> <b>Purpose:</b> To protect recreational uses and experiences.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None. |
| Recreation          | Labyrinth Canyon SRMA          | NSO        |             | X |   | X | No surface occupancy would be allowed in the Labyrinth Canyon SRMA.<br><b>Purpose:</b> To protect recreational uses and experiences.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Recreation          | Dirty Devil/Robbers Roost SRMA | NSO        |             | X |   |   | No surface occupancy would be allowed within the portion of the Dirty Devil/Robber's Roost SRMA in the planning area.<br><b>Purpose:</b> To protect recreational uses and experiences.   |

| Resource of Concern | Applicable Area                  | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------|----------------------------------|------------|-------------|---|---|---|---|
|                     |                                  |            | A           | B | C | D |   |
|                     |                                  |            |             |   |   |   | <b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.   |
| Recreation          | Dirty Devil/Robbers Roost SRMA   | NSO        | X           |   | X | X | No surface occupancy for leases within VRM Class II areas and canyon rims within the viewshed of canyons (approximately one-quarter mile) to protect scenic values and opportunities for primitive and semi-primitive recreation.<br><b>Purpose:</b> To protect recreational and visual resources.<br><b>Exception:</b> Consider exceptions if oil and gas exploration and development would not impair identified scenic and primitive or semi-primitive recreational resources.<br><b>Modification:</b> None.<br><b>Waiver:</b> None. |
| Recreation          | Green River/Labyrinth Canyon Rim | NSO        |             |   | X |   | No surface occupancy within 1 mile of the Green River/Labyrinth Canyon Rim.<br><b>Purpose:</b> To protect recreation experiences along the rim of the Green River.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.   |
| Recreation          | Horseshoe Canyon Rim             | NSO        |             |   | X | X | No surface occupancy within 1 mile of the Horseshoe Canyon Rim.<br><b>Purpose:</b> To protect recreation experiences along the rim of Horseshoe Canyon.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Recreation          | Green River/Labyrinth Canyon Rim | NSO        |             |   |   | X | No surface occupancy within 1 mile of the Green River/Labyrinth Canyon Rim north of the San Rafael River.<br><b>Purpose:</b> To protect recreation experiences along the rim of the Green River.<br><b>Exception:</b> None.<br><b>Modification:</b> None.   |

| Resource of Concern | Applicable Area        | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------|------------------------|------------|-------------|---|---|---|---|
|                     |                        |            | A           | B | C | D |   |
|                     |                        |            |             |   |   |   | <b>Waiver:</b> None.  |
| Recreation          | Key Observation Points | NSO        |             | X |   |   | <p>No surface occupancy within 3 miles of the following key observation points:</p> <ul style="list-style-type: none"> <li>• Keg Knoll</li> <li>• Wolverton Overlook</li> <li>• Horseshoe Canyon Trailhead</li> <li>• Trin Alcove/Three Canyon</li> <li>• Bull Bottom</li> </ul> <p><b>Purpose:</b> To protect viewpoints, lookouts, dispersed camping, and trailheads.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Recreation          | Key Observation Points | NSO        |             |   | X | X | <p>No surface occupancy within 1 mile of the following key observation points:</p> <ul style="list-style-type: none"> <li>• Keg Knoll</li> <li>• Wolverton Overlook</li> <li>• Horseshoe Canyon Trailhead</li> <li>• Trin Alcove/Three Canyon</li> <li>• Bull Bottom</li> </ul> <p><b>Purpose:</b> To protect viewpoints, lookouts, dispersed camping, and trailheads.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Recreation          | Key Observation Points | CSU        |             |   |   | X | <p>Prior to authorizing any surface disturbing activities within 1-3 miles of the following key observation points a viewshed analysis will be completed. If an area is determined to be within the viewshed, a visual resource contrast rating, including visual simulations, would be completed in accordance with BLM Manual 8431. Site-specific mitigation measures would be identified for all disturbances that are visible between 1-3 miles that minimize visual impacts, regardless of the areas visual resource management class.</p> <ul style="list-style-type: none"> <li>• Keg Knoll</li> <li>• Wolverton Overlook</li> </ul> |

| Resource of Concern | Applicable Area        | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------|------------------------|------------|-------------|---|---|---|---|
|                     |                        |            | A           | B | C | D |   |
|                     |                        |            |             |   |   |   | <ul style="list-style-type: none"> <li>Horseshoe Canyon Trailhead</li> <li>Trin Alcove/Three Canyon</li> <li>Bull Bottom</li> </ul> <p><b>Purpose:</b> To protect viewpoints, lookouts, dispersed camping, and trailheads.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Recreation          | Key Observation Points | NSO        |             | X |   |   | <p>No surface occupancy within 3 miles of the following travel corridors:</p> <ul style="list-style-type: none"> <li>Lower San Rafael Road from Highway 24 to Horseshoe Canyon</li> <li>Lower San Rafael Road from Green River to Horseshoe Canyon</li> </ul> <p><b>Purpose:</b> To protect primary travel corridors.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Recreation          | Key Observation Points | NSO        |             |   |   | X | <p>No surface occupancy within 1 mile of the following travel corridors:</p> <ul style="list-style-type: none"> <li>Lower San Rafael Road from Saucer Basin Road to Horseshoe Canyon.</li> <li>Lower San Rafael Road from the San Rafael River to Horseshoe Canyon.</li> </ul> <p><b>Purpose:</b> To protect primary travel corridors.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Recreation          | Key Observation Points | CSU        |             |   |   | X | <p>Prior to authorizing any surface disturbing activities within 1-3 miles of the following travel corridors a viewshed analysis will be completed. If an area is determined to be within the viewshed, a visual resource contrast rating, including visual simulations, would be completed in accordance with BLM Manual 8431. Site-specific mitigation measures would be identified for all disturbances that are visible between 1-3 miles that minimize visual impacts, regardless of the areas visual resource management class.</p> |

| Resource of Concern | Applicable Area                        | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------|--|------------|-------------|---|---|---|---|
|                     |  |            | A           | B | C | D |   |
|                     |  |            |             |   |   |   | <ul style="list-style-type: none"> <li>Lower San Rafael Road from Saucer Basin Road to Horseshoe Canyon.</li> <li>Lower San Rafael Road from the San Rafael River to Horseshoe Canyon.</li> </ul> <p><b>Purpose:</b> To protect primary travel corridors.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Soil Resources      | Saline Soils in the Mancos Shale       | TL         |             | X |   |   | <p>Do not allow surface disturbing activities during the period from December 1 to April 15. This restriction includes heavy equipment traffic on existing roads associated with drilling and completion operations.</p> <p><b>Purpose:</b> To minimize watershed damage including compaction, rutting, and topsoil loss.</p> <p><b>Exception:</b> Adjustments to timing restriction could be considered by the Authorized Officer on a case-by-case basis, depending on current soil and weather conditions.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>         |
| Soil Resources      | Saline Soils in the Mancos Shale       | TL         |             |   | X | X | <p>Do not allow surface disturbing activities during the period from December 1 to April 15. This restriction does not include heavy equipment traffic on existing roads associated with drilling and completion operations.</p> <p><b>Purpose:</b> To minimize watershed damage including compaction, rutting, and topsoil loss.</p> <p><b>Exception:</b> Adjustments to timing restriction could be considered by the Authorized Officer on a case-by-case basis, depending on current soil and weather conditions.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Soil Resources      | Soils with high wind erosion potential | CSU        |             | X | X | X | <p>Require use of BMPs (<b>Appendix C</b>) to minimize or mitigate wind erosion and emissions of fugitive dust. Areas characterized by fine sandy soils with high wind erosion potential, including dune complexes, should be avoided to the extent possible. If avoidance is not possible, then operators must provide a written Plan of Development that identifies specific measures that will be implemented to effectively mitigate and prevent accelerated wind erosion and downwind (off-site) emissions of</p>  |

| Resource of Concern | Applicable Area    | Stip. Code | Alternative |   |   |   | Stipulation Description  |
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|                     |                    |            | A           | B | C | D |  |
|                     |                    |            |             |   |   |   | <p>fugitive dust. Use of wind fences or other forms of wind breaks, dust suppressants, or other methods of erosion control may be required.</p> <p><b>Purpose:</b> To protect soils, minimize topsoil loss, and avoid erosion.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Soil Resources      | Steep Slopes (RFO) | CSU        | X           | X | X | X | <p>Construction on slopes greater than 30 percent would be avoided. If the action cannot be avoided, a proposal would include an erosion control strategy, reclamation and site plan with a detailed survey and design completed by a certified engineer. This proposal must be approved by the BLM prior to construction and maintenance.</p> <p><b>Purpose:</b> To protect soils and avoid erosion.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Soil Resources      | Steep Slopes (PFO) | CSU        | X           | X | X | X | <p>In surface disturbing proposals regarding construction on slopes of 20 percent to 40 percent, include an approved erosion control strategy and topsoil segregation/restoration plan. Such construction must be properly surveyed and designed by a certified engineer and approved by the BLM prior to project implementation, construction, or maintenance.</p> <p><b>Purpose:</b> To protect soils and avoid erosion.</p> <p><b>Exception:</b> If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the area may be authorized. In addition, a plan from the operator and BLM's approval of the plan would be required before construction and maintenance could begin. The plan must include:</p> <ul style="list-style-type: none"> <li>• An erosion control strategy;</li> <li>• GIS modeling;</li> <li>• Proper survey and design by a certified engineer.</li> </ul> <p><b>Modification:</b> Modifications also may be granted if a more detailed analysis is conducted and shows that impacts can be mitigated, e.g., Order I soil survey</p> |

| Resource of Concern | Applicable Area             | Stip. Code | Alternative |   |   |   | Stipulation Description  |
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|                     |                             |            | A           | B | C | D |  |
|                     |                             |            |             |   |   |   | <p>conducted by a qualified soil scientist, finds that surface disturbance activities could occur on slopes between 20 and 40 percent while adequately protecting areas from accelerated erosion.</p> <p><b>Waiver:</b> None.</p>  |
| Soil Resources      | Steep Slopes (PFO)          | NSO        | X           |   |   |   | <p>No surface occupancy on slopes greater than 40 percent.</p> <p><b>Purpose:</b> To protect soils and avoid erosion.</p> <p><b>Exception:</b> If after an environment analysis the authorized officer determines that it would cause undue or unnecessary degradation to pursue other placement alternatives; surface occupancy in the area may be authorized. In addition, a plan from the operator and BLM's approval of the plan shall be required before construction and maintenance could begin. The plan would have to include:</p> <ul style="list-style-type: none"> <li>• An erosion control strategy;</li> <li>• GIS modeling;</li> <li>• Proper survey and design by a certified engineer.</li> </ul> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Soil Resources      | Steep Slopes                | NSO        |             | X | X | X | <p>No surface occupancy on slopes greater than 40 percent.</p> <p><b>Purpose:</b> To protect soils and avoid erosion.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Water Resources     | Riparian and Wetlands (RFO) | NSO        | X           |   |   |   | <p>No surface disturbance and/or occupancy within buffer zones around natural springs. Base the size of the buffer on hydrological, riparian, and other factors necessary to protect the water quality of the springs. If these factors cannot be determined, maintain a 330-foot buffer zone from outer edge.</p> <p><b>Exception:</b> Consider exceptions if it can be shown that (1) there are no practical alternatives to the disturbance, (2) all long-term impacts can be fully mitigated, and (3) the activity will benefit and enhance the riparian area. Consider compensatory mitigation where surface disturbance cannot be avoided within riparian wetland habitats on a site-specific basis.</p>   |



| Resource of Concern | Applicable Area                          | Stip. Code | Alternative |   |   |   | Stipulation Description   |
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|                     |  |            |             |   |   |   | <b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Water Resources     | Natural Springs (PFO)                    | NSO        | X           |   |   |   | <p>No surface disturbance or occupancy will be maintained around natural springs to protect the water quality of the spring. The distance would be based on geophysical, riparian, and other factors necessary to protect the water quality of the springs. If these factors cannot be determined, a 660-foot buffer zone would be maintained.</p> <p><b>Purpose:</b> To protect springs and riparian areas.</p> <p><b>Exception:</b> An exception could be authorized if (a) there are no practical alternatives, (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Water Resources     | Intermittent and Perennial Streams (PFO) | NSO        | X           |   |   |   | <p>No new surface disturbance (excluding fence lines) will be allowed in areas within the 100-year floodplain or 100 meters (330 feet) on either side from the centerline, whichever is greater, along all perennial and intermittent streams, streams with perennial reaches, and riparian areas.</p> <p><b>Purpose:</b> To protect perennial and intermittent streams and riparian areas.</p> <p><b>Exception:</b> The authorized officer could authorize an exception if it could be shown that the project as mitigated eliminated the need for the restriction.</p> <p>An exception could be authorized if (a) there are no practical alternatives, (b) impacts could be fully mitigated, or (c) the action is designed to enhance the riparian resources.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Water Resources     | Water Resources                          | NSO        |             | X |   | X | <p>No surface occupancy within public water reserves, 100-year floodplains, and within 660 feet of intermittent and perennial streams, rivers, riparian areas, wetlands, water wells, and springs.</p> <p><b>Purpose:</b> To protect public water reserves, 100-year floodplains, intermittent and perennial streams, rivers, springs, wetlands, riparian areas, and water wells.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception for road and pipeline</p>  |

| Resource of Concern | Applicable Area   | Stip. Code | Alternative |   |   |   | Stipulation Description  |
|---------------------|-------------------|------------|-------------|---|---|---|--|
|                     |                   |            | A           | B | C | D |  |
|                     |                   |            |             |   |   |   | <p>crossings if (a) there are no practical alternatives; (b) impacts can be mitigated; or (c) proposed operations would result in less impact then locating the facilities in other locations.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Water Resources     | Water Resources   | NSO        |             |   | X |   | <p>No surface occupancy within public water reserves, 100-year floodplains, and within 330 feet of intermittent and perennial streams, rivers, riparian areas, wetlands, water wells, and springs.</p> <p><b>Purpose:</b> To protect public water reserves, 100-year floodplains, intermittent and perennial streams, rivers, springs, wetlands, riparian areas, and water wells.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception for road and pipeline crossings if (a) there are no practical alternatives; (b) impacts can be mitigated; or (c) proposed operations would result in less impact then locating the facilities in other locations.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Water Resources     | Ephemeral Streams | NSO        |             | X |   |   | <p>No surface occupancy would be allowed within 100 feet of ephemeral streams.</p> <p><b>Purpose:</b> To protect ephemeral streams.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Water Resources     | Ephemeral Streams | NSO        |             |   | X | X | <p>No surface occupancy would be allowed within 100 feet of ephemeral streams.</p> <p><b>Purpose:</b> To protect ephemeral streams.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception for road and pipeline crossings if (a) there are no practical alternatives; (b) impacts can be mitigated; or (c) proposed operations would result in less impact then locating the facilities in other locations.</p> <p><b>Modification:</b> None.</p>   |

| Resource of Concern        | Applicable Area | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|----------------------------|-----------------|------------|-------------|---|---|---|---|
|                            |                 |            | A           | B | C | D |   |
|                            |                 |            |             |   |   |   | <b>Waiver:</b> None.  |
| Special Designations: ACEC | Tidwell Draw    | NSO        | X           | X |   | X | Oil and gas leasing would be open to leasing subject to major constraints.<br><b>Purpose:</b> To protect relevant and important historic values.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.   |
| Special Designations: ACEC | Tidwell Draw    | CSU        |             |   | X |   | Do not allow surface disturbing activities that adversely impact the physical evidence of past mining activities.<br><b>Purpose:</b> To protect relevant and important historic values.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Special Designations: ACEC | Dry Lake ACEC   | NSO        | X           |   |   |   | No surface occupancy on federal land for the protection of cultural resources.<br><b>Purpose:</b> To protect relevant and important cultural values.<br><b>Exception:</b> The Authorized Officer may grant an oil and gas exception if it is determined that no other economic and technically feasible access is available to reach and drain the fluid mineral resources of the area. A block cultural survey must be completed and a treatment plan developed and submitted to BLM and the State Historic Preservation Office (SHPO) for their approval. The plan must contain measures to mitigate surface disturbance and reduce visual intrusion.<br><b>Modification:</b> None.<br><b>Waiver:</b> None. |
| Special Designations: ACEC | Dry Lake ACEC   | NSO        |             | X | X | X | No surface occupancy on federal land for the protection of cultural resources.<br><b>Purpose:</b> To protect relevant and important cultural values.<br><b>Exception:</b> None.<br><b>Modification:</b> None.   |

| Resource of Concern       | Applicable Area   | Stip. Code | Alternative |   |   |   | Stipulation Description   |
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|                           |                   |            | A           | B | C | D |   |
|                           |                   |            |             |   |   |   | <b>Waiver:</b> None.  |
| Special Designations: NHT | Old Spanish Trail | CSU        | X           |   |   |   | <p>Cultural resources inventories (including point, area, and linear features) will be required for all federal undertakings that could affect cultural resources or historic properties in areas of both direct and indirect impacts.</p> <p><b>Purpose:</b> Preserve the integrity of landscapes along the Old Spanish National Historic Trail.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> Although complete Class III inventories will be performed for most land use actions, an authorized officer could waive inventory for any part of an Area of Potential Effect when one or more of the following conditions exist:</p> <ul style="list-style-type: none"> <li>• Previous natural ground disturbance has modified the surface so extensively that the likelihood of finding cultural properties is negligible. (Note: This is not the same as being able to document that any existing sites may have been affected by surface disturbance; ground disturbance must have been so extensive as to reasonably preclude the location of any such sites.)</li> <li>• Human activity within the last 50 years has created a new land surface to such an extent as to eradicate locatable traces of cultural properties.</li> <li>• Existing Class II or equivalent inventory data are sufficient to indicate that the specific environmental situation did not support human occupation or use to a degree that would make further inventory information useful or meaningful.</li> <li>• Previous inventories must have been conducted according to current professionally acceptable standards.</li> <li>• Records are available and accurate and document the location, methods, and results of the inventory.</li> <li>• Class II “equivalent inventory data” includes an adequate amount of acreage distributed across the same specific environmental situation that is located within the study area.</li> <li>• Inventory at the Class III level has previously been performed, and records documenting the location, methods, and results of the inventory are available. Such inventories must have been conducted according to current professionally acceptable standards.</li> <li>• Natural environmental characteristics (such as recent landslides or rock falls) are unfavorable to the presence of cultural properties.</li> </ul> |

| Resource of Concern       | Applicable Area   | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------------|-------------------|------------|-------------|---|---|---|---|
|                           |                   |            | A           | B | C | D |   |
|                           |                   |            |             |   |   |   | <ul style="list-style-type: none"> <li>The nature of the proposed action is such that no impact can be expected on significant cultural resources.</li> <li>Conditions exist that could endanger the health or safety of personnel, such as the presence of hazardous materials, explosive ordnance, or unstable structures.</li> </ul>   |
| Special Designations: NHT | Old Spanish Trail | NSO        |             | X |   |   | <p>No surface occupancy would be allowed within 3 miles of the Old Spanish Trail within the Planning Area. This stipulation would apply to the congressionally designated route and to any draft refinements of this route.</p> <p><b>Purpose:</b> Preserve the integrity of landscapes along the Old Spanish National Historic Trail.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Wavier:</b> None.</p>   |
| Special Designations: NHT | Old Spanish Trail | NSO        |             |   |   | X | <p>No surface occupancy would be allowed within 1 mile of high potential sites and route segments within the Planning Area. This stipulation would apply to the congressionally designated route or the latest verified trail location.</p> <p><b>Purpose:</b> Preserve the integrity of landscapes along the Old Spanish National Historic Trail.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Wavier:</b> The Authorized Officer may waive the stipulation if it is determined that the Old Spanish National Historic Trail does not exist within the area.</p>   |
| Special Designations: NHT | Old Spanish Trail | CSU        |             |   |   | X | <p>Prior to authorizing any surface disturbance in areas that are within 1-3 miles of high potential sites and route segments, a viewshed analysis will be completed from the Old Spanish Trail. If an area is determined to be within the viewshed, a visual resource contrast rating, including visual simulations, would be completed in accordance with BLM Manual 6280. In order to protect the historic integrity of the trail, mitigation measures would be identified that minimize visual impacts, regardless of the areas visual resource management class. In addition, coordination with trail administration (i.e., BLM and NPS) will be required. This stipulation would apply to the congressionally designated route or the latest verified trail location.</p> |

| Resource of Concern                          | Applicable Area  | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|--|--|------------|-------------|---|---|---|---|
|  |  |            | A           | B | C | D |   |
|  |  |            |             |   |   |   | <b>Purpose:</b> Preserve the integrity of landscapes along the Old Spanish National Historic Trail.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> The Authorized Officer may waive the stipulation if it is determined that the Old Spanish National Historic Trail does not exist within the area.  |
| Special Designations: NHT                    | Old Spanish Trail  | CSU        |             |   | X |   | Maintain the current setting within 2 miles of the trail. This stipulation would apply to the congressionally designated route or the latest verified trail location.<br><b>Purpose:</b> Preserve the integrity of landscapes along the Old Spanish National Historic Trail.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> The Authorized Officer may waive the stipulation if it is determined that the Old Spanish National Historic Trail does not exist within the area. |
| Special Designations: Wild and Scenic Rivers | Green River Suitable Segment (Confluence of the San Rafael River to Canyonlands National Park) | NSO        | X           |   | X |   | No surface occupancy would be allowed within the Green River suitable WSR segment (Confluence of the San Rafael River to Canyonlands National Park).<br><b>Purpose:</b> To protect the outstanding and remarkable values of the Green River.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.   |
| Visual Resources                             | VRI Class II areas   | NSO        |             | X |   |   | No surface occupancy would be allowed in VRI Class II areas.<br><b>Purpose:</b> To protect high quality visual resources.<br><b>Exception:</b> None.<br><b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Visual Resources                             | VRI Class II areas   | CSU        |             |   |   | X | In VRI class II areas, prior to authorizing any surface disturbing activity, a visual resource contrast rating would be completed in accordance with BLM Manual 8431.   |

| Resource of Concern | Applicable Area          | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|---------------------|--------------------------|------------|-------------|---|---|---|---|
|                     |                          |            | A           | B | C | D |   |
|                     |                          |            |             |   |   |   | <p>Mitigation measures would be identified to retain the existing character of the landscape.</p> <p><b>Purpose:</b> To protect high quality visual resources.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>   |
| Visual Resources    | VRM Class II Areas (PFO) | CSU        | X           |   |   |   | <p>Within VRM II areas, surface disturbing activities will comply with BLM Manual Handbook 8431-1 to retain the existing character of the landscape.</p> <p><b>Purpose:</b> To protect high quality visual resources.</p> <p><b>Exception:</b> Recognized utility corridors are exempt. Temporary exceedance may be allowed during initial development phases.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Visual Resources    | VRM Class II Areas (RFO) | CSU        | X           |   |   |   | <p>Surface disturbing activities must meet the objectives of VRM Class II.</p> <p><b>Purpose:</b> To protect high quality visual resources.</p> <p><b>Exception:</b> The level of change to the landscape should be low; management activities may be seen, but should not attract the attention of the casual observer. Any change to the landscape must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. Surface disturbing activities that are determined to be compatible and consistent with the protection or enhancement of the resource values are exempted. Also, recognized utility corridors are exempted only for utility projects, which would be managed according to VRM Class III objectives.</p> <p><b>Modification:</b> None</p> <p><b>Waiver:</b> None</p> |
| Visual Resources    | VRM Class II Areas       | NSO        |             | X |   |   | <p>No surface occupancy would be allowed in VRM Class II areas.</p> <p><b>Purpose:</b> To protect high quality visual resources.</p> <p><b>Exception:</b> None.</p>   |

| Resource of Concern          | Applicable Area    | Stip. Code | Alternative |   |   |   | Stipulation Description   |
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|                              |                    |            | A           | B | C | D |   |
|                              |                    |            |             |   |   |   | <b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Visual Resources             | VRM Class II Areas | CSU        |             |   | X | X | <p>In VRM class II areas, prior to authorizing any surface disturbing activity, a visual resource contrast rating would be completed in accordance with BLM Manual 8431. Mitigation measures would be identified to retain the existing character of the landscape.</p> <p><b>Purpose:</b> To protect high quality visual resources.</p> <p><b>Exception:</b> Temporary exceedance may be allowed during construction phase.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Visual Resources-Night Skies | Planning Area      | CSU        |             | X |   | X | <p>Operators are required to comply with the following:</p> <ul style="list-style-type: none"> <li>• Limit the use of artificial lighting during nighttime operations to only those that are determined necessary for safety.</li> <li>• Utilize shielding and aiming techniques as well as limiting the height of light poles to reduce glare and avoid light shining above horizons.</li> <li>• Direct lights downward onto the task area. The bottom surface of the light fixture should be level, or if unable to be fully level, point it as close to straight down as possible or shield it to avoid light being projected horizontally.</li> <li>• Use motion sensors, timers, or manual switching for areas that require illumination but are seldom occupied.</li> <li>• Reduce lamp brightness and select lights that are not broad spectrum or bluish in color.</li> </ul> <p><b>Purpose:</b> To protect night skies.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception if actions are necessary for human health and safety. The Authorized Officer could also grant an exception if it could be demonstrated that other options could produce similar reduction in night sky light pollution to those listed above.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |
| Auditory                     | Lands near         | CSU        |             | X | X | X | Mitigate noise levels so there is no change in the natural ambient sound as recorded in   |



| Resource of Concern              | Applicable Area            | Stip. Code | Alternative |   |   |   | Stipulation Description   |
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|                                  |                            |            | A           | B | C | D |   |
| Management - Soundscape          | Canyonlands National Parks |            |             |   |   |   | <p>Canyonlands National Park or Glen Canyon National Recreation Area. This stipulation applies to all phases of oil and gas operations and at all sites and facilities.</p> <p><b>Purpose:</b> To protect the soundscapes of Nation Park units.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Auditory Management - Soundscape | Planning Area              | CSU        |             | X |   | X | <p>Noise levels from production equipment may not exceed 45 decibels as measured at 350 feet from the source.</p> <p><b>Purpose:</b> To protect the soundscapes in the planning area.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Wildlife Resources               | Pronghorn Habitat (RFO)    | TL         | X           |   |   |   | <p>No surface disturbing activities in crucial pronghorn antelope habitat from May 15 through June 15 to protect species sensitivity during fawning season.</p> <p><b>Purpose:</b> To minimize stress and disturbance to pronghorn.</p> <p><b>Exception:</b> The authorized officer may grant an exception if the operator submits a plan that demonstrates that impacts from the proposed action can be adequately mitigated.</p> <p><b>Modification:</b> The authorized officer may modify the boundaries of the stipulation area (1) if a portion of the area is not being used as crucial pronghorn habitat during kidding season or (2) if habitat outside of stipulation boundaries is being used for crucial pronghorn habitat and needs to be protected.</p> <p><b>Waiver:</b> A waiver may be granted if the habitat is determined as unsuitable for crucial pronghorn habitat and there is no reasonable likelihood of future use as crucial pronghorn habitat.</p> |
| Wildlife Resources               | Pronghorn Habitat          | TL         |             | X | X | X | <p>No surface disturbing activities in crucial pronghorn antelope habitat from May 15 through June 15 to protect the species during sensitive fawning seasons.</p> <p><b>Purpose:</b> To minimize stress and disturbance to pronghorn.</p> <p><b>Exception:</b> The Authorized Officer may grant an exception if the operator submits a</p>   |

| Resource of Concern    | Applicable Area                  | Stip. Code | Alternative |   |   |   | Stipulation Description  |
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|                        |                                  |            | A           | B | C | D |  |
|                        |                                  |            |             |   |   |   | <p>plan that demonstrates impacts from the proposed action can be adequately mitigated or if it is determined the habitat is not being utilized. This stipulation does not apply to the maintenance and operation of existing facilities.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Special Status Species | White-tailed Prairie Dog Habitat | CSU        | X           |   |   |   | <p>No surface-disturbing activities within 660 feet of prairie dog colonies identified within prairie dog habitat. No permanent aboveground facilities are allowed within the 660 feet buffer.</p> <p><b>Purpose:</b> To minimize stress and disturbance to white-tailed prairie dogs.</p> <p><b>Exception:</b> An exception may be granted by the authorized officer if the applicant submits a plan that indicates that impacts of the proposed action can be adequately mitigated or, if due to the size of the town, there is no reasonable location to develop a lease and avoid colonies the authorized officer will allow for loss of prairie dog colonies and/or habitat to satisfy terms and conditions of the lease.</p> <p><b>Modification:</b> The authorized officer may modify the boundaries of the stipulation area if portions of the area do not include prairie dog habitat or <i>active</i> colonies are found outside current defined area, as determined by BLM.</p> <p><b>Waiver:</b> May be granted if in the leasehold if it is determined that habitat no longer exists or has been destroyed.</p> |
| Special Status Species | White-tailed Prairie Dog Habitat | CSU        |             | X | X | X | <p>No surface-disturbing activities within 660 feet of prairie dog colonies identified within prairie dog habitat. No permanent aboveground facilities are allowed within the 660 feet buffer.</p> <p><b>Purpose:</b> To minimize stress and disturbance to white-tailed prairie dogs.</p> <p><b>Exception:</b> An exception may be granted by the authorized officer if the applicant submits a plan that indicates that impacts of the proposed action can be adequately mitigated.</p> <p><b>Modification:</b> The authorized officer may modify the boundaries of the stipulation area if portions of the area do not include prairie dog habitat or <i>active</i> colonies are found outside current defined area, as determined by BLM.</p> <p><b>Waiver:</b> May be granted if in the leasehold if it is determined that habitat no longer exists or has been destroyed.</p>  |

| Resource of Concern    | Applicable Area       | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|------------------------|-----------------------|------------|-------------|---|---|---|---|
|                        |                       |            | A           | B | C | D |   |
| Special Status Species | Migratory Birds (PFO) | TL         | X           |   |   |   | <p>Migratory bird nesting areas will be closed seasonally from April 15 to August 1. Areas with migratory birds designated as BLM Special Status Species will have the highest priority.</p> <p><b>Purpose:</b> Protect high-value breeding habitat.</p> <p><b>Exception:</b> Upon review and monitoring, the authorized officer may grant exceptions because of climatic and/or habitat conditions if activities would not cause undue stress to migratory bird populations.</p> <p><b>Modification:</b> Season may be adjusted depending on climatic and range conditions. Distance may be adjusted if natural features provide adequate visual screening.</p> <p><b>Waiver:</b> None.</p>  |
| Special Status Species | Migratory Birds       | TL         |             | X | X | X | <p>During nesting season for migratory birds (April 15-August 1), avoid surface-disturbing activities in occupied migratory bird habitat. Breeding season surveys would be required.</p> <p><b>Purpose:</b> Protect high-value breeding habitat.</p> <p><b>Exception:</b> Upon review and monitoring, the authorized officer may grant exceptions because of climatic and/or habitat conditions.</p> <p><b>Modification:</b> Season may be adjusted depending on climatic and range conditions. Distance may be adjusted if natural features provide adequate visual screening.</p> <p>Waiver: None.</p>  |
| Special Status Species | Raptors               | TL/CSU     |             |   |   |   | <p>Apply seasonal restrictions and spatial buffers on all known raptor nests in accordance with Utah Field Office Guidelines for Raptor Protection from Human and Land use Disturbances (USFWS 2002).</p> <p>In addition, operators would be required to mitigate unavoidable impacts to raptors and their habitats. The amount and type of mitigation should be based on losses in habitat value.</p> <p><b>Purpose:</b> To protect high-value raptor habitat.</p> <p><b>Exception:</b></p> <ul style="list-style-type: none"> <li>Short term land use and human use activities may be allowed within the spatial buffer of an occupied nest outside the seasonal buffer, after coordination with appropriate Service, UDWR, and/or land management</li> </ul> |

| Resource of Concern    | Applicable Area        | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|------------------------|------------------------|------------|-------------|---|---|---|---|
|                        |                        |            | A           | B | C | D |   |
|                        |                        |            |             |   |   |   | <p>agency biologists.</p> <ul style="list-style-type: none"> <li>If a nest site is deemed unoccupied, after sufficient time has elapsed in a specified breeding season and prior to the beginning of the next year's breeding season, short-term land use and human activity could be allowed within the nesting area.</li> <li>Long-term land use activities and human use activities may occur in proximity to unoccupied nests if impacts are mitigated prior to initiation of the long-term disturbance.</li> </ul> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> A stipulation may be waived if a raptor nest is permanently abandoned or has been physically damaged past the point of repair by raptors.</p> |
| Special Status Species | Jones Cycladenia       | CSU        |             | X |   |   | <p>Surveys would be required in all modeled habitat. Preclude surface-disturbing activities within 300 feet of occupied habitat.</p> <p><b>Purpose:</b> To protect Jones Cycladenia occupied habitat.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p>  |
| Special Status Species | Jones Cycladenia       | CSU        |             |   | X | X | <p>Surveys would be required in all modeled habitat where there is moderate potential for occupation. The need for surveys would be determined on a case-by-case basis by the BLM.</p> <p>Preclude surface-disturbing activities within 300 feet of occupied habitat.</p> <p><b>Purpose:</b> To protect Jones Cycladenia occupied habitat.</p> <p><b>Exception:</b> None.</p> <p>Modification: None.</p> <p>Waiver: None.</p>   |
| Special Status Species | Wright Fishhook Cactus | CSU        |             | X |   |   | <p>Surveys would be required in all modeled habitat. Preclude surface-disturbing activities within 300 feet of occupied habitat.</p> <p><b>Purpose:</b> To protect Wright Fishhook cactus occupied habitat.</p> <p><b>Exception:</b> None.</p>  |

| Resource of Concern    | Applicable Area        | Stip. Code | Alternative |   |   |   | Stipulation Description   |
|------------------------|------------------------|------------|-------------|---|---|---|---|
|                        |                        |            | A           | B | C | D |   |
|                        |                        |            |             |   |   |   | <b>Modification:</b> None.<br><b>Waiver:</b> None.  |
| Special Status Species | Wright Fishhook Cactus | CSU        |             |   | X | X | <p>Surveys would be required in all modeled habitat where there is moderate potential for occupation. The need for surveys would be determined on a case-by-case basis by the BLM.</p> <p>Preclude surface-disturbing activities within 300 feet of occupied habitat.</p> <p><b>Purpose:</b> To protect Wright Fishhook cactus occupied habitat.</p> <p><b>Exception:</b> None.</p> <p><b>Modification:</b> None.</p> <p><b>Waiver:</b> None.</p> |

**Table B-1. Oil and Gas Lease Notices**

| Resource of Concern | Applicable Area | Alternative |   |   |   | Lease Notice Description   |
|---------------------|-----------------|-------------|---|---|---|--|
|                     |                 | A           | B | C | D |  |
| Air Quality         | Planning Area   | X           |   | X |   | <p>A condition of approval will be attached to all APDs requiring that new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower shall not emit more than 2 grams of NOx per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.</p> <p>All new and replacement internal combustion gas field engines of greater than 300 design-rated horsepower must not emit more than 1 gram of NOx per horsepower-hour.</p>   |
| Air Quality         | Planning Area   | X           |   |   |   | <p>The lessee is given notice that the Bureau of Land Management (BLM) in coordination with the U.S. Environmental Protection Agency and the Utah Department of Air Quality, among others, has developed the following air quality mitigation measures that may be applied to any development proposed on this lease. Integration of and adherence to these measures may help minimize adverse local or regional air quality impacts from oil and gas development (including but not limited to construction, drilling, and production) on regional ozone formation.</p> <ul style="list-style-type: none"> <li>• All internal combustion equipment would be kept in good working order.</li> <li>• Water or other approved dust suppressants would be used at construction sites and along roads, as determined appropriate by the Authorized Officer.</li> <li>• Open burning of garbage or refuse would not occur at well sites or other facilities.</li> <li>• Drill rigs would be equipped with Tier II or better diesel engines.</li> <li>• Vent emissions from stock tanks and natural gas TEG dehydrators would be controlled by routing the emissions to a flare or similar control device which would reduce emissions by 95% or greater.</li> <li>• Low bleed or no bleed pneumatics would be installed on separator dump valves and other controllers.</li> <li>• During completion, flaring would be limited as much as possible. Production equipment and gathering lines would be installed as soon as possible.</li> <li>• Well site telemetry would be utilized as feasible for production operations.</li> <li>• Stationary internal combustion engine would comply with the following standards: 2g NOx/bhp-hr for engines &lt;300HP; and 1g NOx/bhp-hr for engines &gt;300HP.</li> </ul> <p>Additional site-specific measures may also be employed to avoid or minimize effects to local or regional air quality. These additional measures will be developed and implemented in coordination with the U.S. Environmental Protection Agency, the Utah Department of Air Quality, and other agencies with expertise or jurisdiction as appropriate based on the</p> |

| Resource of Concern        | Applicable Area                         | Alternative |   |   |   | Lease Notice Description  |
|----------------------------|---|-------------|---|---|---|---|
|                            |   | A           | B | C | D |   |
|                            |   |             |   |   |   | size of the project and magnitude of emissions.   |
| Air Quality                | Planning Area                           | X           |   |   |   | <p>To mitigate any potential impact oil and gas development emissions may have on regional ozone formation, the following Best Management Practices (BMPs) would be required for any development projects:</p> <ul style="list-style-type: none"> <li>• Tier II or better drilling rig engines</li> <li>• Stationary internal combustion engine standard of 2g NOx/bhp-hr for engines &lt;300HP and 1g NOx/bhp-hr for engines &gt;300HP</li> <li>• Low bleed or no bleed pneumatic pump valves</li> <li>• Dehydrator VOC emission controls to +95% efficiency</li> <li>• Tank VOC emission controls to +95% efficiency</li> </ul> |
| Air Quality                | Planning Area                           | X           | X | X | X | The lessee/operator is given notice that prior to project-specific approval, additional air quality analyses may be required to comply with the National Environmental Policy Act, Federal Land Policy and Management Act, and/or other applicable laws and regulations. Analyses may include dispersion modeling for deposition and visibility impacts analysis, control equipment determinations, and/or emission inventory development. These analyses may result in the imposition of additional project-specific air quality control measures.   |
| Special Designations: NHT  | Old Spanish Trail                       |             |   | X |   | Within 2-miles of the Old Spanish Trail, modifications to the Surface Use Plan of Operations may be required in order to conserve, protect, and restore the National Trail resources, qualities, values, and associated settings. Additionally, coordination with the National Park Service and BLM will be necessary. This lease notice applies to the congressionally designated route or the latest verified trail location.   |
| Special Designations: ACEC | Tidwell Draw                            |             |   | X |   | <p>Apply a Lease Notice to inform the lessee/operator that compensatory mitigation may be required for all disturbances in the ACEC.</p> <p>Mitigation may include restoration of historic sites, conducting oral histories, or development of interpretive/educational materials.</p>  |
| Wildlife Resources         | Pronghorn Fawning (PFO)                 | X           |   |   |   | The lessee/operator is given notice that lands in this lease have been identified as containing antelope fawning habitat. Exploration, drilling, and other development activities may be restricted from May 1 through June 15 to protect antelope fawning. Modifications may be required in the Surface Use Plan of Operations including seasonal timing restrictions to protect the species and its habitat.  |
| Wildlife Resources         | Crucial Pronghorn Fawning Habitat (PFO) | X           |   |   |   | The lessee/operator is given notice that lands in this lease have been identified as containing crucial antelope fawning habitat. Exploration, drilling and other development activities would be restricted from April 15 through June 15 to protect antelope fawning.   |

| Resource of Concern | Applicable Area                | Alternative |   |   |   | Lease Notice Description  |
|---------------------|--------------------------------|-------------|---|---|---|---|
|                     |                                | A           | B | C | D |   |
|                     |                                |             |   |   |   | Modifications may be required in the Surface Use Plan of Operations including seasonal timing restrictions to protect the species and its habitat.  |
| Wildlife Resources  | Pronghorn Winter Habitat (PFO) | X           |   |   |   | The lessee/operator is given notice that lands in this lease have been identified as containing crucial pronghorn winter habitat. Exploration, drilling and other development activities would be restricted from December 1 through April 15 to protect crucial winter range.  |
| Wildlife Resources  | Pronghorn Habitat              |             | X | X | X | <p>Compensatory mitigation may be required for all disturbances in crucial pronghorn habitat. Mitigation should be planned to offset the loss of habitat directly and indirectly affected by oil and operations.</p> <p>Offset the loss of important habitat by completing rehabilitation and enhancement projects in appropriate locations in the region or landscape.</p> <p>Habitat rehabilitation and enhancement projects may include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Water developments Springs/seeps;</li> <li>• Wetland development Ponds/reservoirs;</li> <li>• Big game guzzlers;</li> <li>• Vegetation Enhancement;</li> <li>• Wells/windmills for wildlife waters;</li> <li>• Seeding and planting of grasses and shrubs;</li> <li>• Fencing or fencing upgrades to protect or enhance wildlife habitats; or</li> <li>• Reclamation of previous disturbances, such as undesignated routes.</li> </ul> |
| Water Resources     | Riparian                       | X           |   |   |   | The lessee/operator is given notice that this lease has been identified as containing riparian areas. No surface use or otherwise disruptive activity allowed within 100 meters of riparian areas unless it can be shown that (1) there is no practicable alternative; (2) that all long-term impacts are fully mitigated; or (3) that the construction is an enhancement to the riparian areas. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2.   |
| Water Resources     | Public Water Reserves          | X           |   |   |   | The lessee/operator is given notice that lands in this lease have been identified as a designated Public Water Reserve. Surface occupancy or use is subject to the Public Water Reserve Executive Order No. 107. Modification to the Surface Use Plan of Operations may be required for the protection of the reserve up to and including no surface occupancy or use. Protection of a designated public water reserve as discussed in Public Water Reserve Executive Order No. 107. This limitation does not apply to operations and maintenance of producing wells.   |



| Resource of Concern    | Applicable Area  | Alternative |   |   |   | Lease Notice Description  |
|------------------------|--|-------------|---|---|---|---|
|                        |  | A           | B | C | D |   |
| Soil Resources         | Erosive Soils  | X           |   |   |   | The lessee/operator is given notice that lands in this lease contain soils that are unusually susceptible to wind and/or water erosion. Best management practices to reduce and/or prevent erosion may be required for operations on the lease. These practices could involve but would not be limited to interim reclamation of well locations and access roads soon after the well is put into production, re-contouring most of the well location and re-top soiling and re-vegetating the entire well pad with native species, and re-vegetating road cuts, fills and borrow ditches.   |
| Paleontology Resources | High Potential Areas                                       | X           |   |   |   | The lessee/operator is given notice that lands in this lease have been identified as having high potential for paleontological resources. Planned projects should be consistent with BLM Manual and Handbook H8270-1, Chapter III (A) and III (B) to avoid areas where significant fossils are known or predicted to occur or to provide for other mitigation of possible adverse effects (RX, NF, ESR). Modifications to the Surface Use Plan of Operations may be required in order to protect paleontological resources from surface disturbing activities in accordance with Section 6 of the lease terms and 43 CFR 3101.1-2.  |
| Cultural Resources     | Notification and consultation regarding cultural resources | X           | X | X | X | The lease area may now or hereafter be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), the Archaeological Resources Protections Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), the American Indian Religious Freedom Act (AIRFA), other statutes and Executive Order 13007, and which may be of concern to Native American tribes, interested parties, and the State Historic Preservation Officer (SHPO). BLM will not approve any ground disturbing activities as part of future lease operations until it completes applicable requirements of the National Historic Preservation Act (NHPA), including the completion of any required procedure for notification and consultation with appropriate tribe(s) and/or the SHPO. BLM may require modifications to exploration and development proposals to further its conservation and management objectives on BLM-approved activities that are determined to affect or impact historic or cultural properties and/or resources. |
| Cultural Resources     | Planning Area  | X           |   |   |   | This parcel is located in an area of high concentrations of cultural resources. Known cultural sites are fragile and many are buried under sandy deposits which migrate due to their susceptibility to wind. These sites, or large portions, are not visible from the surface. Therefore, the following mitigation measures may be applied to any surface disturbance of this parcel: 1) pre-surface disturbance cultural resource inventories; 2) pre-surface disturbance subsurface testing; 3) monitoring of ground disturbance; and 4) post-disturbance monitoring identifying resources as the soils stabilize around a project.   |
| Cultural               | Planning Area  | X           |   |   |   | The lessee/operator is given notice that lands in this lease contain significant Cultural   |

| Resource of Concern    | Applicable Area        | Alternative |   |   |   | Lease Notice Description   |
|------------------------|------------------------|-------------|---|---|---|--|
|                        |                        | A           | B | C | D |  |
| Resources              |                        |             |   |   |   | Resources. Modifications to the Surface Use Plan of Operations may be required for the protection of these resources. Class III level block inventories may be required to determine resource location and possible impact to the resource.  |
| Cultural Resources     | High Potential Areas   |             | X | X | X | The lessee/operator is given notice that in areas with high potential for cultural site occurrence there is a higher likelihood of encountering cultural resource concerns (i.e., potential adverse effects) that may require archaeological monitoring, ethnographic data collection, data recovery, and mitigation of historic properties in order to exercise lease rights.   |
| Cultural Resources     | Planning Area          |             | X | X | X | The lessee/operator is given notice that measures to mitigate the potential impacts to TCPs or cultural plants identified through consultation may be required. Mitigation would be developed through further consultation with affected groups, which may include measures to maintain the viewshed and intrinsic values, as well as the auditory, visual, and aesthetic settings of the resources.   |
| Cultural Resources     | Planning Area          |             | X |   |   | The lessee/operator is given notice that a viewshed analysis may be required for cultural sites that are eligible for inclusion on the National Register, or properties of traditional religious and cultural importance to an Indian Tribe.<br><br>If the analysis shows that the oil and gas development would have adverse effects to the historic properties, the project may require relocation or redesign.  |
| Cultural Resources     | Planning Area          |             |   |   | X | The lessee/operator is given notice that a viewshed analysis may be required for cultural sites that are eligible for inclusion on the National Register when location, setting, or feeling contribute to the overall integrity of a site, or properties of traditional religious and cultural importance to an Indian Tribe.<br><br>If the analysis shows that the oil and gas development would have adverse effects to the historic properties, the project may require relocation or redesign.   |
| Special Status Species | Utah Sensitive Species | X           | X | X | X | The lessee/operator is given notice that no surface use or otherwise disruptive activity would be allowed that would result in direct disturbance to populations or individual special status plant and animal species, including those listed on the BLM sensitive species list and the Utah sensitive species list. The lessee/operator is also given notice that lands in this parcel have been identified as containing potential habitat for species on the Utah Sensitive Species List. Modifications to the Surface Use Plan of Operations may be required in order to protect these resources from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, Migratory Bird Treaty Act and 43 CFR 3101.1-2. |

| Resource of Concern    | Applicable Area                | Alternative |   |   |   | Lease Notice Description  |
|------------------------|--------------------------------|-------------|---|---|---|---|
|                        |                                | A           | B | C | D |   |
| Special Status Species | Special Status Plants          | X           | X | X | X | The lessee/operator is given notice that lands in this lease have been identified as containing special status plants, not federally listed, and their habitats. Modifications to the Surface Use Plan of Operations may be required in order to protect the special status plants and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.  |
| Special Status Species | Burrowing Owl (PFO)            | X           | X | X | X | The lessee/operator is given notice that lands in this lease have been identified as containing Burrowing Owl Habitat. Modification to the Surface Use Plan of Operations may be required in order to protect the Burrowing Owl and/or habitat from surface disturbing activities in accordance with Section 6 of the lease terms, Endangered Species Act, and 43 CFR 3101.1-2.   |
| Special Status Species | Kit Fox                        |             | X | X | X | The lessee/operator is given notice that prior to conducting surface disturbing activities in potential habitat, kit fox surveys would be required. Preclude surface-disturbing activities within 660 feet (200 meters) of an occupied kit fox den.   |
| Special Status Species | Colorado River Endangered Fish | X           | X | X | X | <p>The Lessee/Operator is given notice that the lands in this parcel contain Critical Habitat for the Colorado River fish (bonytail, humpback chub, Colorado pike minnow, and razorback sucker) listed as endangered under the Endangered Species Act, or these parcels have watersheds that are tributary to designated habitat. Critical habitat was designated for the four endangered Colorado River fishes on March 21, 1994(59 FR 13374-13400). Designated critical habitat for all the endangered fishes includes those portions of the 100-year floodplain that contain primary constituent elements necessary for survival of the species. Avoidance or use restrictions may be placed on portions of the lease. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:</p> <ul style="list-style-type: none"> <li>• Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individual(s).</li> <li>• Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.</li> <li>• Water production will be managed to ensure maintenance or enhancement of riparian habitat.</li> </ul> |

| Resource of Concern    | Applicable Area     | Alternative |   |   |   | Lease Notice Description  |
|------------------------|---------------------|-------------|---|---|---|---|
|                        |                     | A           | B | C | D |   |
|                        |                     |             |   |   |   | <ul style="list-style-type: none"> <li>• Avoid loss or disturbance of riparian habitats.</li> <li>• Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.</li> <li>• Conduct watershed analysis for leases in designated critical habitat and overlapping major tributaries in order to determine toxicity risk from permanent facilities.</li> <li>• Implement Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423).</li> <li>• Drilling will not occur within 100 year floodplains of rivers or tributaries to rivers that contain listed fish species or critical habitat.</li> <li>• In areas adjacent to 100-year flood plains, particularly in systems prone to flash floods, analyze the risk for flash floods to impact facilities, and use closed loop drilling, and pipeline burial or suspension according to Appendix B (Hydrologic Considerations for Pipeline Crossing Stream Channels, Technical Note 423), to minimize the potential for equipment damage and resulting leaks or spills.</li> </ul> <p>Water depletions from any portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM.</p> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p> |
| Special Status Species | Mexican Spotted Owl | X           | X | X | X | <p>The Lessee/Operator is given notice that the lands in this parcel contain suitable habitat for Mexican spotted owl, a federally listed species. The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted owl, a federally listed species. Critical habitat was designated for the Mexican spotted owl on August 31, 2004 (69 FR 53181-53298). Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs within or outside the owl nesting season.</p> <p>A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of owl habitat or</p>  |

| Resource of Concern | Applicable Area | Alternative |   |   |   | Lease Notice Description   |
|---------------------|-----------------|-------------|---|---|---|--|
|                     |                 | A           | B | C | D |  |
|                     |                 |             |   |   |   | <p>displaces owls through disturbances, i.e. creation of a permanent structure.</p> <p>The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures, will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> <li>1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s).</li> <li>2. Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the conservation measures below if project activities occur within 0.5 mile of suitable owl habitat. Determine potential effects of actions to owls and their habitat. <ol style="list-style-type: none"> <li>a. Document type of activity, acreage and location of direct habitat impacts, type and extent of indirect impacts relative to location of suitable owl habitat.</li> <li>b. Document if action is temporary or permanent.</li> </ol> </li> <li>3. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.</li> <li>4. Water production will be managed to ensure maintenance or enhancement of riparian habitat.</li> <li>5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in canyon habitat suitable for Mexican spotted owl nesting.</li> <li>6. For all temporary actions that may impact owls or suitable habitat: <ol style="list-style-type: none"> <li>a. If the action occurs entirely outside of the owl breeding season (March 1 – August 31), and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.</li> <li>b. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity must be delayed until outside of the breeding season.</li> <li>c. Rehabilitate access routes created by the project through such means as raking</li> </ol> </li> </ol> |

| Resource of Concern    | Applicable Area | Alternative |   |   |   | Lease Notice Description   |
|------------------------|-----------------|-------------|---|---|---|--|
|                        |                 | A           | B | C | D |  |
|                        |                 |             |   |   |   | <p>out scars, re-vegetation, gating access points, etc.</p> <p>7. For all permanent actions that may impact owls or suitable habitat:</p> <ol style="list-style-type: none"> <li>Survey two consecutive years for owls according to accepted protocol prior to commencing activities.</li> <li>If owls are found, no actions will occur within 0.5 mile of identified nest site. If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC).</li> <li>Avoid drilling and permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied.</li> <li>Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5 mile buffer for suitable habitat, including canyon rims.</li> <li>Limit disturbances to and within suitable habitat by staying on approved routes.</li> <li>Limit new access routes created by the project.</li> </ol> <p>6. Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the Endangered Species Act.</p> |
| Special Status Species | Bald Eagle      | X           | X | X | X | The lessee/operator is given notice that lands in this lease have been identified as containing Bald Eagle Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Bald Eagle and/or habitat from surface disturbing activities.  |
| Special Status Species | Bald Eagle      | X           |   |   |   | The Lessee/Operator is given notice that the lands in this parcel contains nesting/winter roost habitat for the bald eagle. The bald eagle was de-listed in 2007; however, it is still afforded protection under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 1940). Therefore, avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside the bald eagle breeding or roosting season. A <u>temporary</u> action is completed prior to the following breeding or roosting season leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action continues for more than one breeding or roosting season and/or causes a loss of eagle habitat or displaces eagles through disturbances, i.e. creation of a permanent structure. The following avoidance and minimization measures have been designed to ensure activities carried out on the lease will not lead to the need to consider listing the eagle as threatened   |

| Resource of Concern    | Applicable Area      | Alternative |   |   |   | Lease Notice Description  |
|------------------------|----------------------|-------------|---|---|---|---|
|                        |                      | A           | B | C | D |   |
|                        |                      |             |   |   |   | <p>or endangered. Integration of, and adherence to the following measures will facilitate review and analysis of any submitted permits under the authority of this lease.</p> <p>Current avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> <li>1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s), and be conducted according to protocol.</li> <li>2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated.</li> <li>3. Water production will be managed to ensure maintenance or enhancement of riparian habitat.</li> <li>4. Temporary activities within 1.0 mile of nest sites will not occur during the breeding season of January 1 to August 31, unless the area has been surveyed according to protocol and determined to be unoccupied.</li> <li>5. Temporary activities within 0.5 miles of winter roost areas, e.g., cottonwood galleries, will not occur during the winter roost season of November 1 to March 31, unless the area has been surveyed according to protocol and determined to be unoccupied.</li> <li>6. No permanent infrastructure will be placed within 1.0 mile of nest sites.</li> <li>7. No permanent infrastructure will be placed within 0.5 miles of winter roost areas.</li> <li>8. Remove big game carrion from within 100 feet of lease roadways occurring within bald eagle foraging range.</li> <li>9. Avoid loss or disturbance to large cottonwood gallery riparian habitats.</li> <li>10. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable habitat. Utilize directional drilling to avoid direct impacts to large cottonwood gallery riparian habitats. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.</li> <li>11. All areas of surface disturbance within riparian areas and/or adjacent uplands should be re-vegetated with native species.</li> </ol> <p>Additional measures may also be employed to avoid or minimize effects to the species between the lease sale stage and lease development stage. These additional measures will be developed and implemented in coordination with the U.S. Fish and Wildlife Service.</p> |
| Special Status Species | Golden Eagle Habitat | X           | X | X | X | <p>The lessee/operator is given notice that lands in this lease have been identified as containing Golden Eagle Habitat. Modifications to the Surface Use Plan of Operations may be required in order to protect the Golden Eagle and/or habitat from surface disturbing</p>  |

| Resource of Concern    | Applicable Area                        | Alternative |   |   |   | Lease Notice Description  |
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|                        |  |             |   |   |   | activities.   |
| Special Status Species | Raptors                                | X           |   |   |   | Appropriate seasonal and spatial buffers shall be placed on all known raptor nests in accordance with Utah Field Office Guidelines for Raptor Protection from Human and Land use Disturbances (USFWS 2002) and Best Management Practices for Raptors and their Associated Habitats in Utah (BLM 2006). All construction related activities will not occur within these buffers if pre-construction monitoring indicates the nests are active, unless a site-specific evaluation for active nests is completed prior to construction and if a BLM wildlife biologist, in consultation with USFWS and UDWR, recommends that activities may be permitted within the buffer. The BLM will coordinate with the USFWS and UDWR and have a recommendation within 3-5 days of notification. Any construction activities authorized within a protective (spatial and seasonal) buffer for raptors will require an on-site monitor. Any indication that activities are adversely affecting the raptor and/or its' young, the on-site monitor will suspend activities and contact the BLM Authorized Officer immediately. Construction may occur within the buffers of inactive nests. Construction activities may commence once monitoring of the active nest site determines that fledglings have left the nest and are no longer dependent on the nest site. Modifications to the Surface Use Plan of Operations may be required in accordance with section 6 of the lease terms and 43CFR3101.1-2. |
| Special Status Species | Migratory Birds                        | X           |   |   |   | The lessee/operator is given notice that surveys for nesting migratory birds may be required during migratory bird breeding season whenever surface disturbances and/or occupancy is proposed in association with fluid mineral exploration and development within priority habitats. Surveys should focus on identified priority bird species in Utah. Field surveys will be conducted as determined by the authorized officer of the Bureau of Land Management. Based on the result of the field survey, the authorized officer will determine appropriate buffers and timing limitations.  |
| Special Status Species | Southwestern Willow Flycatcher Habitat | X           | X | X | X | The lessee/operator is given notice that the lands in this parcel contains riparian habitat within the range for southwestern willow flycatcher. In order to protect southwestern willow flycatcher habitat and avoid negative impacts to the species, actions would be avoided or restricted that may cause stress and disturbance during nesting and rearing of their young. Appropriate measures would depend on whether the action is temporary or permanent, and whether it occurs within or outside the nesting season. A temporary action is completed prior to the following breeding season leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of habitat or displaces flycatchers through disturbances, i.e., creation of a permanent structure. Current avoidance and minimization  |



| Resource of Concern    | Applicable Area              | Alternative |   |   |   | Lease Notice Description  |
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|                        |                              |             |   |   |   | <p>measures include the following:</p> <ol style="list-style-type: none"> <li>1. Surveys would be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individual(s) and be conducted according to protocol.</li> <li>2. Activities would require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures would be evaluated and, if necessary, Section 7 consultation reinitiated.</li> <li>3. Water production would be managed to ensure maintenance or enhancement of riparian habitat.</li> <li>4. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.</li> <li>5. Activities would maintain a 300 feet buffer from suitable riparian habitat year long.</li> <li>6. Activities within 0.25 mile of occupied breeding habitat would not occur during the breeding season of April 15 to August 15.</li> <li>7. Ensure that water extraction or disposal practices do not result in change of hydrologic regime that would result in loss or degradation of riparian habitat.</li> <li>8. Re-vegetate with native species all areas of surface disturbance within riparian areas and/or adjacent land.</li> </ol> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p> |
| Special Status Species | Yellow-billed Cuckoo Habitat | X           | X | X | X | <p>The lessee/operator is given notice that the lands in or adjacent to this parcel contain potentially suitable habitat that falls within the range for western yellow-billed cuckoo, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend whether the action is temporary or permanent, and whether it occurs within or outside the breeding and nesting season. A <u>temporary</u> action is completed prior to the following breeding season, leaving no permanent structures and resulting in no permanent habitat loss. A <u>permanent</u> action could continue for more than one breeding season and/or cause a loss of habitat or displace western yellow-billed cuckoos through disturbances (e.g., generation of noise between June 15 and August 31). The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of and adherence to these measures will facilitate review and analysis of</p>  |

| Resource of Concern | Applicable Area                   | Alternative |   |   |   | Lease Notice Description   |
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|                     |                                   | A           | B | C | D |  |
|                     |                                   |             |   |   |   | <p>any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage. Avoidance and minimization measures include the following:</p> <ol style="list-style-type: none"> <li>1. Habitat suitability within and/or directly adjacent to the parcel will be identified prior to lease development to identify potential survey needs.</li> <li>2. Protocol Breeding Season Surveys will be required in suitable habitats prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by permitted individual(s), and be conducted according to protocol.</li> <li>3. Temporary or permanent actions will require monitoring throughout the duration of the project to ensure that western yellow-billed cuckoo or its habitat is not affected in a manner or to an extent not previously considered. Avoidance and minimization measures will be evaluated throughout the duration of the project.</li> <li>4. Water production will be managed to ensure maintenance or enhancement of riparian habitat.</li> <li>5. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.</li> <li>6. New roads, pipelines, or powerlines will be sited outside a 300 foot buffer of suitable habitat.</li> <li>7. Drilling and pumping pads will be sited outside a 300 foot buffer from suitable habitat. Measures such as the use of hospital-grade mufflers and electric pumps or other suitable measures will be used to ensure noise levels at the edge of suitable habitat do not exceed baseline conditions.</li> <li>8. Drilling activities within 0.25 miles of occupied habitat will not occur during the breeding season, which is from June 15 to August 31.</li> <li>9. Ensure that water extraction or disposal practices do not result in a change of hydrologic regime that would result in loss or degradation of riparian habitat.</li> <li>10. Re-vegetate all areas of surface disturbance with native species within riparian areas and/or adjacent uplands.</li> </ol> <p>Additional measures to avoid or minimize effects to the species may be developed and implemented in consultation with the U.S. Fish and Wildlife Service between the lease sale stage and lease development stage to ensure continued compliance with the ESA.</p> |
| Jones cycladenia    | Potential, suitable, and occupied | X           | X | X | X | The lessee/operator is given notice that the lands located in this parcel contain potential habitat for Jones cycladenia.  |

| Resource of Concern | Applicable Area | Alternative |   |   |   | Lease Notice Description   |
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|                     | habitat         |             |   |   |   | <p>In order to minimize effects to the federally threatened Jones cycladenia, the BLM, in coordination with the USFWS has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the ESA. For the purposes of this document, the following terms are so defined: <i>potential habitat</i> is defined as areas that satisfy the broad criteria of the species habitat description, usually determined by preliminary, in-house assessment. <i>Suitable habitat</i> is defined as areas that contain or exhibit the specific components or constituents necessary for plant persistence determined by field inspection and/or surveys; it may or may not contain Jones cycladenia; habitat descriptions can be found in Federal Register Notice and species recovery plan links at &lt;<a href="http://www.fws.gov/endangered/wildlife.html">http://www.fws.gov/endangered/wildlife.html</a>&gt;. <i>Occupied habitat</i> is defined as areas currently or historically known to support Jones cycladenia; synonymous with “known habitat.” The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> <li>1. Pre-project habitat assessments will be completed across 100 percent of the project disturbance area within potential habitat<sup>1</sup> prior to any ground disturbing activities (including ATV use) to determine if suitable Jones cycladenia habitat is present.</li> <li>2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous, due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, “avoidance areas”); in such cases, in general, 300 foot buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by USFWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories: <ol style="list-style-type: none"> <li>a. Must be conducted by qualified individuals(s) and according to BLM and Service accepted survey protocols.</li> <li>b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season at a time when the plant can be detected (usually April 15 to June 5; however, surveyors should verify that the plant is flowering by contacting a BLM or USFWS botanist or demonstrating that the nearest known population is in flower),</li> <li>c. Will occur within 300 feet from the centerline of the proposed right-of-way (ROW) for surface pipelines or roads; and within 300 feet from the perimeter of disturbance for the proposed well pad, including the well pad,</li> </ol> </li> </ol> |

| Resource of Concern | Applicable Area | Alternative |   |   |   | Lease Notice Description  |
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|                     |                 |             |   |   |   | <ul style="list-style-type: none"> <li>d. Will include, but not be limited to, plant species lists and habitat characteristics.</li> <li>e. Will be valid until April 15 of the following year.</li> </ul> <p>3. Design project infrastructure to minimize impacts within suitable habitat:</p> <ul style="list-style-type: none"> <li>a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300 foot buffers, in general; however, site-specific distances will need to be approved by USFWS and BLM when disturbance will occur upslope of habitat.</li> <li>b. Reduce well pad size to the minimum needed without compromising safety.</li> <li>c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad.</li> <li>d. Limit new access routes created by the project.</li> <li>e. Roads and utilities should share common ROWs where possible.</li> <li>f. Reduce the width of ROWs and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat.</li> <li>g. Place signing to limit off-road travel in sensitive areas.</li> <li>h. Stay on designated routes and other cleared/approved areas.</li> <li>i. All disturbed areas will be re-vegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.</li> </ul> <p>4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <ul style="list-style-type: none"> <li>a. Follow the above recommendations in Section 3 for project design within suitable habitats.</li> <li>b. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged.</li> <li>c. Construction of roads will occur such that the edge of the ROW is at least 300 feet from any plant and 300 feet from avoidance areas,</li> <li>d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15 to June 5 (flowering period); dust abatement applications will be comprised of water only.</li> <li>e. The edge of the well pad should be located at least 300 feet away from plants</li> </ul> |

| Resource of Concern    | Applicable Area        | Alternative |   |   |   | Lease Notice Description   |
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|                        |                        | A           | B | C | D |  |
|                        |                        |             |   |   |   | <p>and avoidance areas, in general; however, site specific distances will need to be approved by USFWS and BLM when disturbance will occur upslope of habitat,</p> <p>f. Surface pipelines will be laid such that a 300 foot buffer exists between the edge of the ROW and plants and 300 feet between the edge of ROW and avoidance areas; use stabilizing and anchoring techniques when the pipeline crossed suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by USFWS and BLM when disturbance will occur upslope of habitat.</p> <p>g. Construction activities will not occur from April 15 through June 5 within occupied habitat.</p> <p>h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,</p> <p>i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat., and</p> <p>j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</p> <p>5. Occupied Jones cycladenia habitats within 300 feet of the edge of the surface pipelines' ROWs, 300 feet of the edge of the roads' ROWs, and 300 feet from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the USFWS. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the USFWS.</p> <p>6. Re-initiation of Section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for the Jones cycladenia is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the USFWS to ensure continued compliance with the ESA.</p> |
| Special Status Species | Wright Fishhook Cactus | X           | X | X | X | In order to minimize effects to the federally threatened Wright Fishhook Cactus, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service  |

| Resource of Concern | Applicable Area | Alternative |   |   |   | Lease Notice Description   |
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|                     |                 | A           | B | C | D |  |
|                     |                 |             |   |   |   | <p>(Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the endangered Species Act (ESA). For the purposes of this document, the following terms are so defined: <i>Potential habitat</i> is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment. <i>Suitable habitat</i> is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain Wright Fishhook Cactus; habitat descriptions can be found in Federal Register Notice and species recovery plan links at &lt;<a href="http://www.fws.gov/endangered/wildlife.html">http://www.fws.gov/endangered/wildlife.html</a>&gt;. <i>Occupied habitat</i> is defined as areas currently or historically known to support Wright Fishhook Cactus; synonymous with “known habitat.” The following avoidance and minimization measures should be included in the Plan of Development:</p> <ol style="list-style-type: none"> <li>1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat<sup>1</sup> prior to any ground disturbing activities (including ATV use) to determine if suitable Wright Fishhook Cactus habitat is present.</li> <li>2. Site inventories will be conducted within suitable habitat to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc. suitable habitat will be assessed and mapped for avoidance (hereafter, “avoidance areas”); in such cases, in general, 300’ buffers will be maintained between surface disturbance and avoidance areas. However, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Where conditions allow, inventories: <ol style="list-style-type: none"> <li>a. Must be conducted by qualified individuals(s) and according to BLM and Service accept survey protocols,</li> <li>b. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected (usually April 15<sup>th</sup> to June 5<sup>th</sup>, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),</li> <li>c. Will occur within 300’ from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300’ from the perimeter of disturbance for the proposed well pad including the well pad,</li> <li>d. Will include, but not be limited to, plant species lists and habitat characteristics,</li> </ol> </li> </ol> |

| Resource of Concern | Applicable Area | Alternative |   |   |   | Lease Notice Description   |
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|                     |                 | A           | B | C | D |  |
|                     |                 |             |   |   |   | <p>and</p> <p>e. Will be valid until April 15<sup>th</sup> the following year.</p> <p>3. Design project infrastructure to minimize impacts within suitable habitat:</p> <p>a. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (voidance areas) and incorporate 300' buffers, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,</p> <p>b. Reduce well pad size to the minimum needed, without compromising safety,</p> <p>c. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,</p> <p>d. Limit new access routes created by the project,</p> <p>e. Roads and utilities should share common right-of-ways where possible,</p> <p>f. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,</p> <p>g. Place signing to limit off-road travel in sensitive areas, and</p> <p>h. Stay on designated routes and other cleared/approved areas,</p> <p>i. All disturbed areas will be revegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.</p> <p>4. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:</p> <p>a. Follow the above recommendations (3.) for project design within suitable habitats,</p> <p>b. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,</p> <p>c. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,</p> <p>d. Roads will be graveled with occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 15<sup>th</sup> to June 5<sup>th</sup> (flowering period); dust abatement applications will be comprised of water only,</p> <p>e. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,</p> <p>f. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline</p> |

| Resource of Concern | Applicable Area | Alternative |   |   |   | Lease Notice Description   |
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|                     |                 | A           | B | C | D |  |
|                     |                 |             |   |   |   | <p>crossed suitable habitat to ensure pipelines don't move towards the population; site-specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,</p> <p>g. Construction activities will not occur from April 15<sup>th</sup> through June 5<sup>th</sup> within occupied habitat,</p> <p>h. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging temporary fencing, rebar, etc.,</p> <p>i. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and</p> <p>j. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.</p> <p>5. Occupied Wright Fishhook Cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.</p> <p>6. Re-initiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Wright Fishhook Cactus is anticipated as a result of project activities.</p> <p>Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.</p> |



